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UKRAINIAN WINTER CROP AREA EXPANDED

Moscow SEL'SKAYA ZHIZN' in Russian 16 Sep 79 p 1

[Article by N. Ivanchenko (Dnepropetrovskaya, Zaporozhskaya and Kirovogradskaya oblasts): "Winter Crop Areas Expand"]

[Text] In the steppe regions of the south of the Ukraine there is a lot of sun and heat but, unfortunately, not enough moisture. This has an especially critical effect during dry years. But even then, in certain brigades, farms and rayons the productivity of grain crops does not fall below 30 quintals. The farms of Ul'yanovskiy Rayon in Kirovogradskaya Oblast provide an example of this.

"Here the ones who end up with a crop are usually those who rely mainly on winter wheat," says deputy chief of the Zaporozhskaya Oblast agricultural administration, A. A. Khokhotva. "Under the steppe conditions of the south of the Ukraine where there are years like this one, no other grain crop can equal it. This is why the grain growers of the oblast intend to expand the area planted in winter wheat to 732,000 hectares or 70 percent of all the grain crops."

The farms of Kirovogradskaya and Dnepropetrovskaya oblasts are also increasing the areas planted in winter wheat. On the Ukraina Kolkhoz in Tomakovskiy Rayon in Dnepropetrovskaya Oblast they are expanding it by 350 hectares. And this is correct. After all, this year the wheat produced 31.6 quintals of grain from each hectare while the overall productivity of the grain crops was 26 quintals.

The Rossiya Kolkhoz in Zaporozhskaya Oblast is increasing the area planted in winter wheat by 600 hectares.

"The additional yield was possible because of the early and efficient harvesting of corn for silage, vegetables, melon crops and even sunflowers, which are usually included among the undesirable predecessors. But with the work we are doing, the negative consequences of this crop do not affect the wheat. We prepare the soil in the same way as for fallow, and we apply 60 tons of pulverized manure to each hectare," says the farm's head agronomist, M.P. Gorokhov.

The experience of the Zaporozhskaya Kolkhoz imeni Komintern shows the great possibilities of the winter fields when work with the land is well thought out. They are destroying the carabid with ammonia water. If necessary, individual fields are improved by leaving them fallow every 4-5 years. To every hectare of fallow they apply 30-40 and sometimes up to 100 tons of manure which has been kept in covered clamps for no less than 2 years. This prevents salinization of the fields. Some of the arable land is taken for fallow by reducing the areas planted in the less productive spring crops, which is generously compensated for with minor irrigation. This includes 700 hectares of arable land. Each of them produces 700-800 quintals of alfalfa and 1,000-1,200 quintals of feed sugar beets per hectare. They have a complete supply of feeds and the well-cared-for winter field produces as much grain as is necessary for sale to the state and also for intrafarm needs.

This year, for example, they obtained 38.3 quintals of winter crops per hectare. The rayon Emblem of Quality was conferred on six fields. On an area of 640 hectares they produced 52 quintals of grain from each. The kolkhoz intends to plant 2,680 hectares in winter crops for next year's harvest. They will set the task of having no less than 10 fields with yields in excess of 50 quintals per hectare. The practice of the Kolkhoz imeni Komintern is being disseminated to all of Primorskiy Rayon.

From year to year large crops are produced by the field crop rotations, which have an extreme concentration of winter crops, on the kolkhozes and sovkhozes of Nikopol'skiy Rayon in Dnepropetrovskaya Oblast.

"This year," says the head agronomist of the Kolkhoz imeni Gor'kiy, N. N. Pis'menny, "on 3,400 hectares which will be planted in winter wheat, 42,000 tons of manure and 674 tons of ammonia water were applied during plowing. The fields were prepared for the next harvest according to the methods recommended by the All-Union Scientific Research Institute of Corn: we take a sample of soil for analysis and, depending on the content of nutritive substances in it, we make compensation with the corresponding kinds of fertilizers. We shall do cross sowing on 400 hectares."

The initiator of mass application of cross sowing of winter crops was the Zarya Kommunizma Kolkhoz in Novoarkhangel'skiy Rayon in Kirovogradskaya Oblast.

This simple agricultural device turned out to be extremely effective in Dolinskiy Rayon.

"In combination with other measures of the scientifically substantiated system of farming," says the first secretary of the Dolinskiy party raykom, P. L. Gidulyanov, "cross sowing under the conditions of a difficult summer has brought crops that are like those of the most favorable years. On the Druzhba Kolkhoz they harvest 48.9 quintals of grain per hectare from fields with cross sowing. And there are many examples like this."

Now, with the significant expansion of areas planted in winter crops, Dolinskiy workers plan to plant a maximum of area with the cross sowing method.

In a number of rayons of the south of the Ukraine special attention is given to the selection of strains for the winter fields. They are planting the most drought-resistant of them -- Odesskaya-51 and Bezostaya-1. At the same time grain growers of many farms are expanding the areas planted in Odesskaya-Polukarlikovaya, Polukarlikovaya-49, Zaporozhskaya Ostistaya and Lyutestsens-745.

Planting is now getting underway at full force in the Ukraine. Everything that is new and advanced will be applied on the winter fields here.

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CSO: 1824

PRESS CAMPAIGN TO SUPPORT MINIMAL TILLAGE CONTINUES IN THE UKRAINE

/For related articles see JPRS 74285, 2 Oct 79; JPRS 74328, 9 Oct 79/

/Editorial Report/ The Ukrainian-language agricultural daily SIL'S'KI VISTI has continued its campaign to point up the advantages of minimal tillage. The series "We're Making Friends With the Field Via the Subsoil Plow" /Zdruzhemo Pole z Ploskorizom/ began just after mid-July with a lengthy four part sub-series by Poltavskiy Obkom First Secretary F T Morgun. A late September SIL'S'KI VISTI carries a 1,600 word article by deputy kolkhoz chairman I. Lavrushko. The article from Lubenskiy Rayon in Poltavskaya Oblast is titled "Advantages of the New Technology." Lavrushko points out that soil tillers not only in Poltavskaya Oblast, but also in Zaporozhskaya, Nikolayevskaya, Voroshilovgradskaya and Krymskaya Oblasts were involved in researching and experimenting with the new methodology.

Lavrushko's article is interesting for the people he cites. First there is one H A Oliynyk, formerly a kolkhoz chairman and now a Poltavskiy Obkom secretary, who played a major role in overcoming the psychological barrier. Lavrushko then cites the support from academician and Wheat Institute head V M Remeslo, the first after Morgun himself to come out in favor of the new tillage methods and to continue the series. After devoting several hundred words to the new techniques as they are applied locally Lavrushko gives credit to the leadership role played by Professor M K Shykula, who followed Academician Remeslo in supporting the new technology and continuing Morgun's series thereon. (Kiev SIL'S'KI VISTI in Ukrainian 25 Sep 79 p 2)

A few days later the question resurfaces in a somewhat different form. The paper publishes an 1,800 word article by M Yasyr, chairman of the agricultural board for Shevchenkovskiy Rayon in Khar'kovskaya Oblast. Although the article, titled "Expanded Crop Rotation" is not a part of First Secretary Morgun's series as such, Yasyr devotes most of a long paragraph near the end of the article to further lending authority to his article by citing Morgun and his program, the advantages of the new system and mentioning the equipment involved. (Kiev SIL'S'KI VISTI in Ukrainian 29 Sep 79 p 2)

The series continues in early October with a 2,000 word article by I Shcherbak, an honored agronomist and head of the Novoodesskaya Strain Testing Station /Nikolayevskaya Oblast/. The article titled "Confirmed by the Experiment"

stresses the many years that have been spent researching the new agrotechnology. After pointing up local techniques and the advantages derived from the new agrotechnology Shcherbak takes a shot at those who have not realled to the new system.

"Therefore the arguments of certain scientists and practitioners that plowless soil tillage may be used only under winter wheat has not been confirmed by our research. It is effective under all field crops. (Kiev SIL'S'KI VISTI in Ukrainian 10 Oct 79 p 2)

In early October the point is raised again but this time in the German-Language Kazakhstan daily FREUNDSCHAFT. A short unsigned article titled "Field Without Plow" notes the advantages of tilling without the plow for preparation of the soil for winter grains. The article quotes VASKhNIL academician N Panov and like all of the SIL'S'KI VISTI articles it refers specifically to the Poltavskaya Oblast experience. However, unlike all of the SIL'S'KI VISTI articles, which feature First Secretary Morgun quite prominently, the FREUNDSCHAFT article makes no mention either of Morgun or of any other party figures. (Tselinograd FREUNDSCHAFT in German 4 Oct 79 p 1)

CSO: 1811

PAYMENTS FOR VARIOUS QUALITATIVE LEVELS OF AGRICULTURAL PRODUCE

Moscow PRAVDA in Russian 3 Aug 79 p 2

[Article by N. Prokopenko, director of the Belorussian Scientific Research Institute of Economics and Organization of Agriculture (Minsk): "Criteria of Quality"]

[Text] Not so long ago in certain fields of Belorussia one could see red billboards showing the State Emblem of Quality. The inscriptions indicated the farms to which the cultivated area belonged. Local newspapers wrote much about the innovation. A situation emerged, wherein a statute was issued, according to which the pentangle of honor was conferred on the land. It seemed that the farmers had "felt out" their approach to solving the problem of quality.

But there were serious objections to such "independent activity." Primarily from workers of the state standards service. They said that clear-cut criteria were needed in order to confer the Emblem of Quality on a field. The rural workers do not have them yet. The argument was convincing and the farmers had to agree with them.

"But when will there be state standards?" they asked, in turn.

A specific answer did not ensue. And the disputes still continue: Is it really necessary for a field to have this emblem? Is it not better to confer it on the final product? As we know, the truth is generated from disputes. But time is passing. Rural workers are trying not to fall behind. The party has declared that the main slogan of the Tenth Five-Year Plan is to struggle for efficiency and quality of work. The workers of the kolkhozes and sovkhoses are taking many steps in this direction.

Belorussia's experience is evidence of this. Where did the struggle for quality begin? All the rayons and farms were divided into groups, taking into account the natural fertility of the soil. This was done in order to create approximately the same possibilities for collectives of various climatic and

natural zones. One of the main indicators of the efficiency of the efforts of field workers was the return from mineral fertilizers. The labor of the machine operators is supervised with the help of "quality coupons."

The production of animal husbandry products is calculated in terms of hundreds of hectares of arable land. The amount of the incentive depends on the condition of the meat and the fat content, purity and degree of cooling of the milk.

But how does one differentiate direct payments from additional payments for individual operations like, say, plowing, planting, the application of mineral fertilizers, harvesting and procuring feeds? After all, rural production is a chain of interconnected technological operations, among which there are no secondary ones. In the final analysis they affect the amount and the quality of the final products.

Thinking about this, Hero of Socialist Labor V Kalachik noted:

"Our major reserve is improvement of the quality of the work."

The Svetlyy Put' Kolkhoz in Minskaya Oblast, which is managed by V. Kalachik, gathers an average of more than 40 quintals of grain and more than 300 quintals of potatoes. They produce about 1,000 quintals of milk and 200 quintals of meat per 100 hectares of arable land. But even on an advanced kolkhoz, not everyone has the same professional master or is equally motivated or disciplined. A simple example: One of the brigades did not observe the proper depth of plowing fallow, and in the autumn they were short 90 quintals of potatoes from each hectare.

The same thing can be found on the farms. If their collectives everywhere worked like, say, the animal husbandry workers of Grodnenskaya Oblast, that is, if they turned over the large horned cattle in the highest conditions, an additional 220 million rubles would come into the farms' accounts!

A similar picture can be found with respect to the return on mineral fertilizers. According to the most modest calculations, an increase in their return of 10-15 percent will produce an additional 500,000-700,000 tons of grain. And feed? Here the losses of nutritive substances during preparation and storage sometimes reach one-third.

From these examples one can see the great importance of qualitative indicators of labor in rural areas. Yet in many of the most important areas the payments depend only on volume. They have not determined criteria which would motivate the workers to perform one operation or another "excellently." There are no indicators or methods for evaluating what has been done and there are no material or moral incentives for labor.

The problem of motivating the workers to improve quality as a whole and each device for this individually acquires extremely great significance. The development of the corresponding criteria has become an essential and pressing

matter. Specialists from a number of Belorussian farms, in conjunction with scientists of our institute and also the All-Union Scientific Research Institute of Standardization, have been engaged in this problem for several years.

One can speak of certain results. Now the machine operator, the agronomist and the economist utilize technological charts. But they do not stipulate the requirements for the quality of the operations that are performed. According to the new system, it is recommended that they be evaluated individually: either "excellent," "good" or "satisfactory." There are coefficients that correspond to these: 1.0, 0.9 and 0.8. Below 0.8 is already slipshod work. The payments also depend on the evaluations. The calculated level for additional remunerations corresponds to a coefficient of labor quality of 0.9. When a worker achieves the indicator of 1.0, the material incentive increases 1.5-fold and with a coefficient of 0.8, it sharply decreases.

One must say that the additional fund comprises a sizeable amount. The kolkhozes and sovkhoses of Belorussia annually deduct 65-70 million rubles into it, or 9-10 kopecks from each ruble of basic earnings. These funds are now being distributed in the form of bonus earnings, whose amounts depend on the basic earnings. And according to the new system, the additional payment can be increased by 50 percent or reduced by the same amount if the work is performed poorly. This system is also applied in dairy farming, meat animal husbandry, feed production, agrochemical treatment of the planted areas, and repair and storage of technical equipment. The innovation underwent experimental testing on 17 base farms of the institute and was recommended by the Belorussian SSR Ministry of Agriculture for extensive dissemination. It has already demonstrated its great effectiveness. On the kolkhozes and sovkhoses of Dokshitskiy Rayon, the fat content in the milk has increased and the sales of first-grade milk have increased to 86 percent. The annual economic effect amounted to 400,000 rubles.

The comprehensive system for controlling the quality of agricultural products presupposes the existence of certain standards for technological operations. But rural economists do not always have them. Let us say directly that the means of measuring quality in rural areas do not meet the requirements of the day. The quality of labor and products are determined by an approximate visual estimate.

The introduction of the innovation everywhere would not require large additional expenditures, and the return would be quite significant. Here it is necessary to take into account that it has not only great economic, but also social significance and is an effective factor in inculcating a communist attitude toward labor.

INCREASING MEAT AND MILK PRODUCTION

Moscow EKONOMIKA SEL'SKOGO KHOZYAYSTVA in Russian No 8, Aug 79 pp 54-60

[Article by Candidate of Economic Sciences V. Nikulin]

[Text] More than a year has passed since the July (1978) CPSU Central Committee Plenum. During that time, much has been done on the practical actualization of the most important party directives on further developing agriculture. However, a great deal more still remains to be done.

The July (1978) CPSU Central Committee Plenum outlined a broad program of further development of stockraising. The top-priority task is to achieve an increase in meat production to 19.5 million tons by the end of the 11th Five-Year Plan, 5.0 million tons [more] than the level achieved on average during the 1976-1978 period. In order to reach this high frontier set us, all available reserves will have to be used.

Meat production in our country is increasing from five-year period to five-year period, as is testified to graphically by the data in Table 1 [page following].

As is evident from the indicators of Table 1, average annual meat production in the USSR increased to 14.5 million tons in 1976-1978, or by 3.5 percent as compared with the Ninth Five-Year Plan. However, such growth rates are insufficient. In his speech at an encounter with electors of Baumanskiy Rayon in Moscow, Comrade L. I. Brezhnev pointed out that we have been set the task in 1979 of doubling the increment in meat production and of advancing at at least that rate in the future. Consequently, stockraisers must obtain each year an increment in meat production not of 0.5 million tons, as is the case today (Table 1), but of approximately double that.

Beef is in greatest demand among the population. It comprised about 46 percent of all meat resources in the country in 1975-1978, on average. Beef can be obtained practically everywhere and without large expenditures of feed concentrates. It is important to continue increasing the number of head of cattle and to increase their productiveness.

Table 1. Meat Production, by USSR Republic (all categories of farms, in slaughter weight, in 1,000 tons)

	on average per year			1976-1978 in percent of 1971-1975
	1966-1970	1971-1975	1976-1978	
USSR	11,583	14,004	14,502	100.5
RSFSR	5,949	7,108	7,227	101.6
Ukrainian SSR	2,677	3,280	3,377	102.9
Belorussian SSR	642	789	862	109.2
Uzbek SSR	188	240	275	114.5
Kazakh SSR	815	987	974	98.6
Georgian SSR	100	123	134	108.9
Azerbaijan SSR	86	104	122	117.3
Lithuanian SSR	357	429	462	107.6
Moldavian SSR	173	212	238	112.2
Latvian SSR	192	237	266	112.2
Kirgiz SSR	123	145	148	102.0
Tadzhik SSR	57	75	88	117.3
Armenian SSR	48	62	76	122.5
Turkmen SSR	50	64	71	110.9
Estonian SSR	126	149	182	122.1

In 1979, we have managed not only to rebuild the cattle herd, which decreased from 111.0 million head in 1976 to 110.3 million head in 1977 due to a shortage of feed caused by the 1975 drought, but even to increase it somewhat, to 114.4 million head. Whereas the reduced number of head in a fast-maturation branch like hog-raising can be rebuilt quickly, in about a year, given sufficient feed, it generally takes several years to rebuild a cattle herd. This is why, in overcoming the consequences of the drought, stockraisers have tried to retain the cattle herd size, and the number of cows first of all. And they have coped successfully with this task. The number of cows in the country has not decreased, but has increased somewhat from 41.9 million in 1976 to 42.0 million in 1977 to 42.6 million in 1978 and to 43.1 million in 1979.

At present, the increment in agricultural output is being ensured basically through intensive factors: growth in agricultural crop yields and increased livestock and poultry productiveness. Whereas the live weight per beef sold the state by kolkhozes and sovkhoses was 231 kg in 1964, prior to the historical March (1965) CPSU Central Committee Plenum which signified a new course in party agrarian policy, it reached 330 kg in 1975, 352 kg in 1977 -- an increase of more than 1.5-fold.

The fattening of above-replacement young cattle obtained on dairy farms currently provides the bulk of the beef. It will be necessary to continue increasing the weight of cattle sold the state by increasing fattening intensiveness everywhere. The July (1978) CPSU Central Committee Plenum set the

task of marketing each bull for meat at 400-450 kg, or nearly a quintal more than the level achieved. Increasing the weight of cattle marketed for processing is an important reserve for meat production growth in the country. In 1978, kolkhozes and sovkhoses sold the state 23 million head of cattle, and the plan is to procure 25 million head in 1979. It is not hard to calculate that an additional roughly two million tons of valuable meat could be obtained nationwide just by increasing the weight of each head of livestock.

Many agricultural enterprises have moved onto the path of intensive cattle fattening. More than half of all the beef being received by packing plants of Voronezhskaya and Orenburgskaya Oblasts, the Moldavian SSR and individual oblasts of the Ukraine are being supplied by specialized farms. In Orenburgskaya Oblast, interfarm feed lots have received broad dissemination. They operate in each of the 34 rayons. In 1977, some 155,000 head of young cattle were fattened on interfarm feed lots in the Orenburg area, and in 1978 -- 167,000 head. The average market weight per beef reached 405 and 402 kg, respectively. The intensive production of beef is also well-organized at many agricultural enterprises of the Kuban', Stavropol', Kalmyk and in Penzenskaya, Kurganskaya, Sverdlovskaya, Chelyabinskaya, Novosibirskaya, Omskaya, Kiyevskaya, Cherkasskaya and other oblasts. Kolkhozes and sovkhoses of the Estonian, Lithuanian, Latvian and other union republics are also shipping the packing plants heavy animals (live weights of 400-450 kg).

Increasing weight condition and improving output quality benefits both the state and the kolkhozes and sovkhoses themselves. It influences the economy of the entire branch. This is stimulated by differentiated purchase prices. Thus, state purchase prices for cattle of higher weight are 20 and 60 percent higher, respectively than for cattle of average and below-average weight in Tsentral'nyy Rayon of the RSFSR nonchernozem zone. For example, when a farm markets a 300-kg bull of higher weight it receives 534 rubles, of average weight -- 444 rubles, and of below-average weight -- only 333 rubles. It happens that, with an actual prime cost of raising such a bull of 400 rubles on sovkhoses in this zone, a farm could obtain a profit or suffer losses, depending on the quality of the animal being marketed.

Unfortunately, certain kolkhozes, sovkhoses and even large specialized enterprises have appreciably lowered productiveness indicators recently. Thus, daily weight gains were about 700 grams at the "Proletarskaya" feed lot in Rostovskaya Oblast and about 460 grams at the "Bratskaya" and "Armavirskaya" feed lots (Krasnodarskiy Kray). At the same time, science and practice have confirmed that it is economically unprofitable to obtain less than 800 grams of weight gain per day per head. Heavy beef less than two years old must be sent for slaughtering, and not three- or four-year old animals, which spends a great deal of feed per unit of weight gain and which leads to a more expensive product.

Still, the country's dairy farms, given their very intensive operation, are not, as calculations have shown, in a position to provide the young beef for raising and fattening in amounts sufficient to fully meet the demands of the

population for beef. Even given growth in the number of cows in the public sector to 35 million head, which is sufficient to provide the population with milk in accordance with scientifically substantiated norms, and correspondingly, given growth in the number of above-replacement young beef for raising and fattening, we can obtain only 8.2 million tons of beef, or 3.8 million tons less than required. This shortage of beef can be made up by developing a specialized meat stockraising branch in the country.

Certain positive experience in developing meat stockraising has been accumulated in the Ukrainian SSR and in Orenburgskaya, Rostovskaya and other oblasts. It is important that it be disseminated as quickly and broadly as possible. As experience has shown, beef cattle require two-fold less expenditures than dairy cattle and provide high-quality, so-called "marbled" meat.

Increasing meat resources is also largely associated with the development of such fast-maturation branches as hog-raising. Due to the shortage of feed in 1975-1976, the country's farms reduced the numbers of hogs and their weights also dropped. Nonetheless, in 1978 the number of hogs in the country had increased to 70.5 million, or 7.5 million [more] than in 1977. The average weight per hog during that period also increased, from 97 kg to 104 kg. It is necessary that kolkhozes and sovkhoses expand work on obtaining additional suckling pigs in accordance with the established assignment not only to meet the needs of public farms, but also for sale to the population, in order to create additional meat resources on private farms and to involve them in state purchases in the remaining years of the 10th Five-Year Plan.

Sheep-raising also is a major reserve for increasing meat production and purchases in many regions of the country. Nonetheless, increasing weight condition and other potential opportunities are not being used fully yet in this branch. The number of sheep and goats in the country is growing slowly.

Other branches of stockraising also have available to them enormous reserves for supplementing the country's meat resources. In particular, much remains to be done in the 10th Five-Year Plan to increase purchases of poultry, rabbit and other meat. The reserves here are very diverse. Thus, the purebred poultry sovkhos imeni Frunze in Sakskiy Rayon, Krymskaya Oblast, acquires ducklings at incubation stations, fattens them and sells them to a packing plant. In so doing, the sovkhos increases the amount of meat sold the state and is considerably overfulfilling its five-year plan assignments.

Together with production growth, the amounts of state purchases of livestock and poultry are also increasing from five-year plan to five-year plan, which is confirmed convincingly by the data in Table 2 [page following].

As is evident from the data of Table 2, over the past three five-year periods, the farms of nearly all union republics, having overcome unfavorable weather conditions, have systematically increased the average annual purchases of livestock and poultry.

Table 2. State Purchases of Livestock and Poultry, by Union Republic (all categories of farms, live weight, in 1,000 tons)

	average per year			1976-1978 in percent of 1971-1975
	1966-1970	1971-1975	1976-1978	
USSR	11,610	15,365	16,146	105.0
RSFSR	6,075	7,852	8,051	102.5
Ukrainian SSR	2,449	3,307	3,469	104.9
Belorussian SSR	636	905	1,051	116.1
Uzbek SSR	144	172	217	126.2
Kazakh SSR	1,018	1,340	1,247	93.0
Georgian SSR	63	102	136	133.3
Azerbaijan SSR	72	98	110	112.2
Lithuanian SSR	377	518	590	113.9
Moldavian SSR	162	222	266	119.8
Latvian SSR	202	286	334	116.7
Kirgiz SSR	138	189	205	108.4
Tadzhik SSR	53	67	83	123.8
Armenian SSR	45	71	91	128.2
Turkmen SSR	34	48	57	118.7
Estonian SSR	142	188	239	127.1

The 10th Five-Year Plan for the USSR as a whole anticipates significant growth in the total amounts, including above-plan amounts, of purchases of livestock and poultry as compared with actual purchases in the Ninth Five-Year Plan.

The expectation is that average annual purchases of livestock and poultry will be increased for all union republics both through production growth and through a slight rise in the level of marketability.

The plan in 1976-1980 is to raise the average annual amounts of livestock and poultry purchased (live weight) both in terms of the firm plan and above the plan on the basis of contracts to 17.4 million tons, or 13.1 percent more than in the Ninth Five-Year Plan.

The firm plan of state purchases of livestock and poultry (live weight), in accordance with which a 50-percent addition to the purchase price is paid for above-plan sales, was set as follows for the 10th Five-Year Plan for the USSR as a whole: 1976 -- 14,788,000 tons; 1977 -- 15,776,000 tons; 1978 -- 16,980,000 tons; 1979 -- 18,028,000 tons, and 1980 -- 19,016,000 tons. As we see, the firm plan is set in amounts which increase each year. This permits fuller reflection in it of the increasing state requirement for meat, increasing the role of the firm plan, and at the same time, through a slight rise in purchase prices and additional payments for above-plan output, preserving payments to farms per ton of weight of livestock and poultry marketed.

In connection with the fact that difficult conditions developed for stock-raising in 1978, the firm plan for state livestock and poultry purchases was not met by 13,000 kolkhozes and sovkhoses. As a result, the shortfall to the state was about one million tons of meat. In 1979, these farms must meet their debt to the state. As of 1 June 1979, state liveweight purchases of livestock and poultry were less than 6.0 million tons, or 99.2 percent as compared to the same period last year. In particular, many agricultural enterprises of Kirgizia, Azerbaijan, Turkmenia, Belorussia, Armenia and a number of oblasts of the RSFSR sold the state less livestock and poultry than during the first five months of last year.

In spite of difficulties in providing industry with raw material, the volume of gross and marketed output increased by over 900 million rubles in 1978 as compared with 1977, as was noted at one of the meetings of the USSR Ministry of Meat and Dairy Industry collegium. During that year, the assortment of meat and dairy products was somewhat up-dated, much work was done to improve quality, and the amount of wrapped and packaged output was increased. Efforts by collectives of enterprises of this system to reveal additional reserves and use raw material economically merit special attention. They succeeded in increasing meat resources in the country by 375,000 tons just by using by-products, blood from slaughtered animals, food bone, protein of plant and animal origin more efficiently in production and by reducing storage losses.

The constant increase in the production and purchasing of agricultural output and in wages has permitted an appreciable improvement in the structure of the population's nutrition. In recent years, Soviet people have begun consuming considerably more of such valuable products as milk and meat. As compared with the prerevolutionary period, actual per-capita consumption has grown approximately two-fold in our country: meat -- from 29 kg in 1913 to 41 kg in 1965 to 56 kg in 1978; milk -- 154 kg to 251 kg to 320 kg, respectively.

The July (1978) CPSU Central Committee Plenum set dairy stockraising laborers important tasks. Much work is also being done in this most complex of stockraising branches to intensify production. In actualizing the Plenum's resolutions, stockraisers are achieving greater dairy cattle productiveness and lower expenditures of labor and feed per unit of output.

Both for the country as a whole and for the individual republics, milk production is growing steadily, as borne out by the data from a period of many years which are given in Table 3 [page following]. Nonetheless, the production level in 1978 had decreased somewhat when compared with the preceding year, 1977: from 94.9 to 94.5 million tons. This resulted from a reduction in cow productiveness, as confirmed by the data of Table 4 [page following].

As is evident from the indicators of Table 4, the average annual milk yield per cow decreased by 35 kg from 1977 to 1978.

Table 3. Milk Production, by Union Republic (all categories of farms, in 1,000 tons)

	average per year			1976-1978 in percent of 1971-1975
	1966-1970	1971-1975	1976-1978	
USSR	80,553	87,446	93,020	106.3
RSFSR	44,541	46,710	48,597	104.0
Ukrainian SSR	17,937	20,360	21,958	107.8
Belorussian SSR	4,907	5,720	6,310	110.3
Uzbek SSR	1,169	1,610	1,897	117.8
Kazakh SSR	3,812	4,059	4,268	105.1
Georgian SSR	498	527	609	115.5
Azerbaijan SSR	465	575	707	122.9
Lithuanian SSR	2,385	2,586	2,812	108.7
Moldavian SSR	752	913	1,072	117.4
Latvian SSR	1,745	1,737	1,817	104.6
Kirgiz SSR	522	591	630	106.6
Tadzhik SSR	270	346	421	121.6
Armenian SSR	363	403	462	114.6
Turkmen SSR	178	218	265	121.5
Estonian SSR	1,009	1,091	1,195	109.5

Table 4. Average Annual Milk Yield Per Cow (in kilograms)

	1940	1965	1975	1976	1977	1978
all categories of farms	1,185	1,853	2,204	2,179	2,294	2,259
kolkhozes, interfarm enterprises, sovkhoses and other state farms	1,190	2,002	2,367	2,301	2,445	2,392
kolkhozes	1,017	1,906	2,365	2,296	2,437	2,384
sovkhoses	1,803	2,121	2,330	2,296	2,443	2,397

The average annual milk yields per cow on interfarm enterprises were 2,593 and 2,634 kg in 1977 and 1978, respectively.

And, whereas this indicator decreased by 53 kg on the nation's kolkhozes, it dropped by 46 kg on the sovkhoses. In 1979, stockraisers are called upon to achieve an appreciable increase in cow productiveness. In accordance with the resolutions of the July (1978) CPSU Central Committee Plenum, the average annual milk yield per cow nationwide must be increased to 3,000 kg in the 11th Five-Year Plan, and in regions of developed dairy stockraising -- to 4,000 to 5,000 kg.

Quite a few examples of model milk production organization could be given. I should first of all like to cite the sovkhoses imeni Lenin in Moscow Oblast, "Kutuzovka" in Khar'kovskaya Oblast, "Karavayevo" in Kostromskaya Oblast and the kolkhoz imeni Lenin in Tul'skaya Oblast. In 1978, stockraisers of Odintsovskiy Rayon, Moscow Oblast, achieved a rayon-average milk yield of

4,533 kg per cow. The collective of the "Nemchinovka" dairy farm raised the average productiveness of the cow herd to 6,112 kg. In 1979, dozens of farm operators in the rayon are striving to reach the 6,000-kg per cow mark.

Stockraisers of kolkhozes, sovkhozes, interfarm enterprises and production associations are now being called upon to use the summer to achieve a maximum growth in cow productiveness. This can be ensured given thoroughly well-thought out organization of the green conveyor, uninterrupted delivery of vegetation and, if required, supplementary feeding with crushed grass, hay, minerals and other supplements.

Much experience has been accumulated in various regions of the country in using perennial cultivated pastures effectively, of which we currently have about 6.5 million hectares, a significant portion of which are irrigated.

Plans for summer maintenance of the livestock must be developed at each agricultural enterprise. They must anticipate both the uninterrupted provision of farms with green fodder and forming herds of the same kinds of animals and assigning pasture land to them and other measures.

In early 1979, stockraisers of Moldavia and many farms of Uzbekistan, Azerbaijan, Kirgizia, Tadzhikistan, Turkmenia, Kazakhstan and a number of economic regions of the RSFSR, Ukraine and Belorussia achieved an appreciable increase in milk production.

As a result of steps taken to develop this branch, state milk purchases are increasing year year, as is borne out by the data of Table 5 [page following].

As is evident from the indicators of Table 5, milk purchases in the country are increasing quite rapidly. Growth rates for milk purchases are especially high on farms of the Belorussian, Uzbek, Tadzhik, Azerbaijan and other SSR's.

And still, as of 1 June 1979, state milk purchases were only 22,154,800 tons, or 97 percent as compared with the same period in 1978. In particular, agricultural enterprises of the Baltic republics sold the state less milk than in the first five months of last year.

Summer is an important time for milk. The most important task of specialists and leaders of agricultural enterprises and of all stockraising workers is to keep the livestock in an organized manner so as to overcome the existing lag in milk and meat production and in so doing, to ensure fulfillment of the plan and of socialist obligations on selling the state stockraising output.

For agricultural laborers, summer is a time of many concerns: harvesting the grain, procuring feed, preparing to sow winter crops. Nonetheless, they must continue paying the most careful attention to stockraising farms and achieve growth in herd size and livestock productiveness. That was precisely the point of the CPSU Central Committee and USSR Council of Ministers Decree "On Additional Steps to Ensure Gathering the Harvest, Procuring Agricultural

Products and Feed in 1979 and Successfully Wintering Livestock in the 1979-1980 Period."

Table 5. State Milk and Dairy Products Purchases, by Union Republic (all categories of farms, converted to milk, in 1,000 tons)

	average per year			1976-1978 in percent of 1971-1975
	1965-1970	1971-1975	1976-1978	
USSR	43,197	52,113	59,117	113.4
RSFSR	24,174	28,434	31,678	111.4
Ukrainian SSR	9,881	12,360	13,836	111.9
Belorussian SSR	2,304	3,116	3,901	125.2
Uzbek SSR	326	443	588	132.7
Kazakh SSR	1,708	1,906	2,128	111.6
Georgian SSR	157	198	250	126.3
Azerbaijan SSR	165	224	285	127.2
Lithuanian SSR	1,318	1,685	2,081	123.5
Moldavian SSR	453	584	721	123.4
Latvian SSR	1,274	1,387	1,543	111.2
Kirgiz SSR	290	355	395	111.2
Tadzhik SSR	100	144	199	138.2
Armenian SSR	169	220	269	122.3
Turkmen SSR	73	99	126	127.2
Estonian SSR	805	958	1,117	116.6

In actualizing the party resolutions, stockraisers are creating a reliable basis for carrying out the taut plans of the 10th Five-Year Plan.

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EDITORIAL URGES SPEED IN PLANTING WORK

Kiev PRAVDA UKRAINY in Russian 23 Aug 79 p 1

[Editorial: "Toward Autumn Planting"]

[Text] Summer is coming to a close. The breath of autumn is becoming more and more noticeable in the kolkhoz and sovkhos fields, orchards and gardens: In the mornings there is frost on the ground and in some places the first leaves are timidly beginning to fall. But the farmers still have much to do which requires good weather. And it might not last, and so it is necessary to make haste. The late spring is still having its effect on the course of the field work. It amounted to a continuous process of harvesting vegetables and the green harvest and the gathering of fruits and a number of other, equally important and pressing jobs.

What is unique about this time? First of all, it is necessary to distribute forces in the most efficient way and try to the utmost to keep within the strict deadlines determined by the agricultural calendar. The harvest of the grain spike crops showed quite clearly the importance of organization, speed and maneuvering on the fields under modern conditions. Now it is very important to utilize as fully as possible the experience that has been accumulated and to introduce it everywhere. This plays a special role today, on the eve of the planting of winter crops -- our major grain.

Farmers of the republic have long been convinced that winter wheat is the crop with the greatest possibilities and that in any year it practically determines the gross yield of grain. But the crop does not come of its own accord. In order to obtain as much as possible from the winter field, even today it is necessary to meet a number of the most important and most necessary conditions: to select the best predecessor, to determine the method of preparation of the soil, to prepare the necessary quantity of good seeds, to fertilize the land well and, of course, to plant the fields at the optimal times. If even one of the links in this chain is broken, there is already a decrease in the amount of grain. And, conversely, if all of these agrotechnical rules are observed, the winter grains will not let us down.

One need not go far for examples. This year the winter wheat experienced the unfriendly disposition of the weather: the prolonged spring cold spell, the

scorching, drying heat during the mowing time, and the instability of the good weather during harvesting. In other times, after such experiences the farmer went without grain. But this year many farms not only decrease their yields, but even surpassed last year's indicators. The grain growers of Mikhaylovskiy Rayon in Zaporozhskaya Oblast, for example, gathered 33.6 quintals of winter wheat per hectare and the grain fields produced an average of 39.4 quintals per hectare in Cherkasskiy Rayon in Cherkasskaya Oblast. And the farmers of Ovidiopol'skiy Rayon in Odesskaya Oblast fulfilled the five-year plan for the sale of grain to the state. Such are the actualized possibilities, the fruits of persistent and purposive work for advancing the science of farming.

These days, when the grain growers are making plans for the future, agronomists must seriously weigh everything that has been done and that must be done on the winter fields. In other words, they must develop a clear-cut course toward obtaining a large crop. First one must be concerned about the preparation of the soil. The persistent need for accelerating this work is dictated by the time factor: From day to day in the western region of the republic it is necessary to start planting and many farms have still not fulfilled tasks for preparation of the soil. The kolkhozes and sovkhoses are especially far behind in Zakarpatskaya, Ivano-Frankovskaya and L'vovskaya oblasts, where the soil on half of the area is not ready. For comparison: in Odesskaya, Donetskaya and Kirovogradskaya oblasts the land is ready to receive the seeds even today. Farm managers, specialists and local party organizations must take immediate measures to catch up. Each day of delay in this matter can bring about a significant shortage of grain.

Now it is very important to organize efficiently the work on the corn fields that are to be harvested for green mass and silage. Without losing time, it is necessary to have subsoil tillers and other soil cultivation equipment follow the combines and to prepare the soil quickly and well for the future crop. At the same time it is necessary to efficiently inspect the technical equipment for reliability, and to test each component and each screw. After all, success will depend primarily on highly productive utilization of the machinery.

This year the conditions are favorable for the planting and the fall development of winter crops in many oblasts: In August there were rains that provided the normal supply of moisture for the soil. Therefore there is a possibility of expanding the areas planted in winter crops while still observing all requirements of agrotechnology. One should remember that winter crops react extremely negatively to plowed soil that is loose and uneven. In many cases, towards spring the planting die or thin out precisely on sections like these. Taking this into account, agronomists must check on the quality of the plowing more carefully.

Recently the republic press published an article by a group of scientists entitled "Our Major Grain -- Winter Crops." It gave recommendations for the entire cycle of cultivating winter wheat. The practical agronomists must arm themselves with these recommendations, intelligently adapting each point to local conditions.

The autumn planting complex is a complicated and painstaking matter. Here it is extremely important not to allow blunders or mistakes which are difficult to rectify later. And this means that questions of quality become especially critical -- whether one is speaking about seeds, fertilizers, agronomical decisions or other factors. After all, it frequently happens that the soil on a farm has been plowed well, the planting material is of the highest standard, the agronomist is, as they say, satisfactory, but if a machine operator who is unskilled or simply unconscientious goes out onto the field -- all the preceding work has been in vain.

In order for that not to happen, it is necessary to think about everything, right down to the last detail, right now: to complete the inspection of the seeds, and in places where there are simply not enough of them, to organize an exchange with other farms or bring them in from state resources; to adjust the seeders to the necessary planting norm ahead of time; to develop a scheme of routes and to clear off turning strips; to provide the seeding aggregates with markers; and to explain to the machine operators again and again the importance of one agricultural measure or another and, if necessary, to demonstrate its implementation.

Success in planting winter crops depends largely on how the "rear services" operate. It is the duty of rural party and trade-union organizations to exercise and demanding control over the competition of machine operators, its publicity and effectiveness; to arrange good domestic services for the farmers; and to introduce into practice immediately new and improved forms of organization of labor and the activity of the sphere of services. It is necessary to be concerned about medical services for people employed on the fields and about the strictest observance of rules for the protection of labor during planting time. In the final analysis, all this will contribute to conducting field work successfully at the optimal times. This in itself will lay a firm basis for obtaining a large crop in the final year of the Tenth Five-Year Plan.

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HUNGARIAN METHOD OF CORN RAISING TRIED

Moscow IZVESTIYA in Russian 3 Aug 79 p 1

[Article by O. Pavlov and A. Romanov, special IZVESTIYA correspondents in Moldavia and Dnepropetrovskaya Oblast: "Approval of the New Method"]

[Text] Problems and Prospects for Corn Production For Grain

They warned us: they are fine people and remarkable workers, but not very talkative. Once a journalist came, went all around, and got tired; then he sat down in the office and studied the personal records and biographies of his heroes. Then, finally, people from the same village said something about them...

We began a conversation expecting professional complexities, hoping nevertheless for the assistance of Il'ya Il'ich Arnaut, first secretary of the Chadry-Lungskiy Rayon Party Committee. And suddenly the "corn kings" of Moldavia, heroes of socialist labor Saveliy Mikhaylovich Parmakli and Zakhariy Georgiyevich Paskalov, spoke up and how they spoke! -- energetically and passionately. Not about themselves, however, but about how they are raising corn by a new method.

Chadry-Lungskiy Rayon is in the southern part of Moldavia, the Budzhakskaya Steppe -- a harsh, arid region. They once called it a "land on the way to all troubles." It is a triangle between the Dnestr and Pryt.

The poetic green hills of Moldavia, its oak woods, north of Budzhak. But the local people love their flat country and are proud of their unique Cabernet wine, their broad wheat fields, and of course the republic's highest yields of corn for grain, which S. Parmakli and Z. Paskalov began to raise using a new industrial technology.

But before talking about it and its significance, we would like to discuss the state of affairs on the country's corn fields. The grain of corn is irreplaceable in mixed feeds, especially for poultry. Our country has zones where corn can be raised quite successfully for grain. But the production

of this important crop, unfortunately, does not meet today's needs. Judge for yourself: in the Eighth Five-Year Plan they sowed an average of 3.5 million hectares a year, obtained 9.6 million tons of grain with an average yield of 27 quintals; the figures were 3.6 million hectares, 10.2 million tons, and 28.2 quintals per hectare in the Ninth Five-Year Plan and 3.1 million hectares, 10 million tons, and 32.8 quintals per hectare for 3 years of the current five-year plan.

Although the yields are increasing, gross production in essence does not change since the area sown is declining consistently. At the same time, specialists and scientists believe we can produce three to four times more corn grain. You see, last year the mechanized detachments of S. Parmakli and Z. Paskalov obtained over 70 quintals of grain per hectare in 48 rainless summer days on unirrigated land, and the entire arid Chadyr-Lungskiy Rayon produced an average of 62.5 quintals on 18,000 hectares.

A substantial place in CEMA activity is allocated to agricultural production. We are collaborating, and they are collaborating with us. For example, the USSR is helping Hungary to develop the industrial technology for raising sugar beets, while our Hungarian colleagues have proposed "corn" technology into which the entire world's experience in raising this crop has been incorporated to one degree or another. It has made use of methods, machines, and chemicals created in various countries.

Z. Paskalov said to us, "We have selected from them a technology based on a system of machines, the majority of which are produced in CEMA countries. Herein lies one of the advantages of the industrial technology tested on the Rudzhakskaya Steppe."

"We began on our mechanized detachment's lands," S. Parmakli continued. "On 400 hectares. We obtained everything necessary. The Hungarian specialists arrived. We performed all the operations ourselves, however. There were a great many worries. Understand, we are also 'corn men' in Moldavia, and now everything starts anew and seems much simpler than before, but in fact is more complex."

What is the essence of the industrial technology? Why do they call it this? Because it not simply eliminates manual labor, but it also reduces overall outlays per quintal of product, makes it possible to eliminate all inter-row cultivation, and brings the level of mechanization in corn raising up to the level of the cereal grains. For example, at the beginning of the experiment they spent 0.35 man-hours in Chadyr-Lungskiy Rayon and 2.5 man-hours on the average in the republic per quintal of corn grain.

One important detail in the technology is that the seed must be embedded at a uniform depth so that they have a uniform feeding area and illumination. This is achieved by careful pre-sowing cultivation, irreproachable leveling of the soil, harvesting of all the afterharvest residues, and errorless

sowing by newly designed seeders for precision seeding with electronic control over the operation of each plowshare, thus eliminating gaps.

One more special feature is the campaign against weeds. The herbicide "eradicant" is among the "main characters" in this industrial technology. But for it to function efficiently -- to eliminate all the weeds, it is necessary to carefully cover it within 15 minutes after application and combine it securely with the soil, otherwise it evaporates. This requires a high degree of organization of the operations. The harvesting is accomplished by combines, among which the Khersonets-200 is quite promising.

Of course, everything is not so simple. But in principle, our mechanizers at the current level of their preparedness could quite rapidly and successfully master the new technology and introduce it on large areas. So far this year it is being applied on 160,000 hectares: 100,000 in Moldavia, 20,000 in the RSFSR, 20,000 in the Ukraine, 15,000 in Kazakhstan, and 5,000 in Georgia. It is simply impossible to do more. Specialists of the USSR Ministry of Agriculture told us that even on this area something is lacking for the complete provision of the technology to other farms.

Precisely what is it? This equipment which we observed at the Svetlovskiy Sovkhoz-Tekhnikum in Chardyr-Lungskiy Rayon at the All-Union presowing seminar and later in fact on the fields, for example, of S. Parmakli and Z. Paskalov is impressive. In its constructive achievements, real productivity and even technical esthetics. A precision orange combine (they still call it a huge harrow) prepares a channel for seed to the established depth, carrying out x operations simultaneously. A six-row seeder with two programmed devices for embedding seeds and with devices for the simultaneous applications of pesticides and fertilizers. And so forth. Only the Kirovets tractor (K-701) is Soviet-made in this entire beautiful technical "assembly."

True, we can replace something with analogous machines. For example, the VP-8 soil leveler, the BDT-10 heavy harrow, and as we mentioned above the Khersonets-200 combine are promising. But very likely that is all.

We do have promising machines which have successfully undergone state testing. But, unfortunately, they have not been adopted by industry. What we are currently turning out for the corn fields is in need of modernization and also basic improvement. Especially the seeders. S. Parmakli also wrote about this in the republic newspaper, and today he says heatedly that the Kirovograd seeder SPCh-6 is light weight. "Like a dragon fly in both form and behavior, it jumps about at the smallest roughness. And this creates a gap in the sowing." The new models SUPN-8 and SUPN-12, even though they surpass their predecessor in productivity, have practically the same seeding device, and this does not assure the quality necessary in industrial technology. This is what the Ministry of Tractor and Agricultural Machine Building, lagging a minimum of 10 years behind the demands of the times, is providing our corn growers.

Of course, the directors of this department can reply: they say, this is only the third year Moldavians have been sowing corn by the new method; in other republics it is generally for the first time and we have massive industrial production, can we change it instantaneously? We could agree with this if the specialists at the USSR Ministry of Agriculture had not been knocking on the door of the machine builders, persistently reminding them of the need to create a number of brand new machines and of the advanced experience of the CEMA partners and the practice of other countries of the world did not exist.

Very well, machine builders... But the chemists? Recently they have been very successful, especially in the amount of chemicals produced for agriculture. Under the new technology they single out fertilizers for a specific purpose. (But they were not able to deliver them on time even to a total of 160,000 hectares.) In general less than 5 quintals of mineral fertilizers per hectare are being applied in the country to corn whereas the requirements call for double that at least. Not to mention herbicides. We simply do not have an eradikan-type soil herbicide.

However, the industrial technology does not mean just machines and chemistry. It also means intensive varieties and high quality seed. Alas, everything is far from being in order here. There are still not enough high-yield early maturing and early average maturing varieties in production, and the late maturing varieties, it sometimes happens, do not ripen. For example, the All-Union Scientific Research Institute of Corn is in the Ukraine, in Dnepropetrovsk. It is engaged in selection, but its varieties are allocated to a small area. Currently the institute has submitted several new hybrids for state testing. But how do they develop when they get to the field?

The situation is somewhat better in Moldavia. A scientific production association for corn and sorghum has been in operation there since 1974. Promising hybrids have been created which occupy considerable areas and yield nothing to foreign hybrids in productivity; a good genetic stock has been accumulated. Moldavian selection scientists and production workers are in an optimistic frame of mind and believe that in the very near future their early maturing hybrids, as well as those developed in the Ukraine and the Kuban' could advance corn for grain farther to the north and expand its area in the oblasts of the Chernozem Central Zone, the Volga region, and the Poles'ye of the Ukraine. But creating a hybrid still does not mean guaranteeing its high quality seed to all farms needing them. Here -- in Moldavia and the Ukraine -- everyone who talked to us was in agreement: the present system of seed growing is extremely inadequate and separated departmentally.

In Chadyr-Lunga they cite the Hungarian experience: there a calibration plant has its own land, reproduces hybrids obtained from scientific-production institutions, and sells seed.

Here the calibration plants are in another department; their main purpose is to market their products. Whatever yield is obtained from these seed, there is no demand on them. The plant collective today cannot substantially act on the farms in order to obtain a better quality seed material.

Here is what they said in Dnepropetrovsk. The institute raises native forms of corn. But seed quality is not always high. And all because the institute turns over the cleaned cobs to elevators and procurement centers where, as a rule, they have no incentive to handle seed material carefully. In 1976, for example, the moisture content of corn grain reached 50 percent because of the weather conditions. With the specified technology for drying the seed could have been fully brought up to the necessary condition, but the demands of the procurers were strict -- a moisture content not to exceed 35 percent. Fine, the Novomoskovskiy Calibration Plant and its director S. Shelest met the demand: they dried each lot not for 3 days, but 6. The seeds were salvaged, and the director received a reprimand for over-expenditure of energy...

In the opinion of scientists, seed growing should be concentrated in one place and conducted on an industrial basis. In each zone it is necessary to create a scientific production association which would bear the entire responsibility for raising native forms and bring them up to proper condition.

Let us sum up some results. Today we have an industrial technology proven in our own practice. Specialists believe that in the very near future there is a possibility of obtaining 30 to 40 million tons of corn for grain by expanding the introduction of this technology. But any present-day technology is like a very long chain, and each of its links has to be reliably provided with material and equipment, otherwise the chain will be broken. In our case the main links are selection and seed-growing, machine building, and chemistry. The majority of the problems of providing technology for considerable areas can and must be solved expeditiously. It is possible within the framework of the entire comprehensive scientific-production program under the aegis of the USSR Ministry of Agriculture and VASKhNIL and with the aid of USSR Gosplan, since the new technology also requires a new level of enterprising nature in those who are called upon to provide the cornfield with everything it needs.

Further, it is important to consider the system of adoption. The area of corn raised using the new technology will be expanded and perhaps it would follow that we have supporting, specialized farms which on cost-accounting, contract bases would assure the skilled adoption of the technology. Possibly these functions would be taken on by the experimental stations which exist in each zone.

We left the Budzhakskaya Steppe when they had successfully completed the reaping of grains there, obtaining a yield that was satisfactory. But the

corn was a special source of joy. It stood as a strong wall on the sectors using the industrial technology. There was certainty in the eyes of S. Parmikli and Z. Paskalov -- there will be a harvest; a new enterprise is being approved.

We certainly wish success to our cornfield!

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EFFICIENT UTILIZATION OF HIGH-QUALITY FEEDS

Moscow ZHIVOTNOVODSTVO in Russian No 8, Aug 79 pp 8-11

[Article by L. S. Stefanyuk, chief of the Main Administration for Production of Mixed Feeds and Feed Supplements of the USSR Ministry of Agriculture: "Efficient Utilization of Forage Resources"]

[Text] Attaching importance to completely providing animal husbandry with all kinds of all kinds of high-quality feeds, the CPSU Central Committee and the USSR Council of Ministers have adopted a number of decrees which earmark concrete measures for creating a reliable feed base for animal husbandry. They have also recognized the expediency of further expanding the construction of interfarm enterprises for producing mixed feeds.

In recent years, along with the expansion of the state mixed industry, there has been considerable development of interfarm enterprises for producing mixed feeds and feed supplements. At the present time there are already 3,870 enterprises and shops in operation for producing mixed feeds and mash, including 787 interfarm mixed feed plants. In 1978 these enterprises produced more than 13 million tons of mixed feed and mash, using protein and vitamin supplements. At the interfarm mixed feed enterprises there are shops for producing full-ration granules and briquettes, vitamin and conifer meal, dry nonfat milk, mineral premixes and other supplements.

The work for developing interfarm mixed feed production is being carried out in many oblasts and republics. Interfarm cooperation in producing mixed feeds is on a large scale in the Ukrainian SSR. It began in 1969 in L'vovskaya Oblast with the construction of the republic's first interkolkhoz mixed feed plant which had a capacity of 50 tons of mixed feeds a shift. At the present time there are 376 interfarm mixed feed plants in operation in the Ukraine, with an overall capacity of 8.2 million tons a year.

Last year the republic's state, interfarm, interfarm, kolkhoz and sovkhoz mixed feed enterprises produced 14 million tons of mixed feeds. Interfarm mixed feed plants produced 52 percent of this quantity. The increased production of mixed feeds at interfarm enterprises made it possible to increase their proportion in the overall volume of concentrated feeds from 35 percent in 1975 to 48 percent in 1978.

There are 21 interfarm mixed feed plants in operation in Kiev Oblast, with an overall capacity of 440,000 tons a year. In 1978 these enterprises produced 422,000 tons of mixed feeds or, in other words, they processed 67 percent of the grain allotted for forage purposes in the oblast.

The practice of operating interfarm mixed feed plants has confirmed their great economic effectiveness in increasing the production of animal husbandry products. An interkolkhoz mixed feed plant has been operating for a number of years in Obukhovskiy Rayon in Kiev Oblast. All the kolkhozes in this rayon are shareholders in it. In 1978 the enterprise produced 28,000 tons of mixed feeds which included protein and vitamin supplements. That is, it processed 80 percent of all the grain that the kolkhozes used for feed.

Analysis shows that with the startup of this enterprise the productivity of animal husbandry increased significantly on the farms of the rayon: the milk yield per cow increased from 2,830 kilograms in 1973 to 3,283 kilograms in 1978; the average daily weight gain of young cattle that were being fattened increased from 430 grams in 1973 to 840 in 1978. Using mixed feeds from the interfarm plant, the Kolkhoz imeni Kabanets of this rayon last year fattened 10,000 hogs and achieved an average daily weight gain during fattening of 450 grams. The Polesskiy interkolkhoz mixed feed plant in Polesskiy Rayon of this oblast in 1978 produced 31,000 tons of mixed feeds. The plant processed all the grain allotted by the kolkhozes for forage purposes. Moreover, the enterprise produced 963 tons of grass meal, 580 tons of conifer meal, 400 tons of straw meal, 1,011 tons of carbamide concentrate and 6,000 tons of full-ration granules. The plant provides the main supply of full-ration granules for the cattle that are being fattened. The average daily weight gain of the young animals amounted to almost 900 grams in 1978.

In Donetskaya Oblast there are 16 interfarm mixed feed plants in operation at the present time. These enterprises produced 461,000 tons of mixed feeds, processing more than 60 percent of all the forage grain used by the farms of the oblast. On the Pobeda Kolkhoz in Krasnoarmeyskiy Rayon in Donetskaya Oblast, where the proportion of mixed feeds in the overall volume of concentrates that were used has increased from 55 to 70 percent in the last 2 years, the gross production of meat increased by 15 percent during that period and the milk yield per cow increased by 442 kilograms.

At the fattening complex of the Kolkhoz imeni Zhdanov in Krasnolimanskiy Rayon of this same oblast, which obtains full-ration mixed feed from the Krasnolimanskiy interfarm mixed feed plant, the average daily weight gain of cattle during fattening last year amounted to 1,200 grams. A weight gain of young cattle of 1,000-1,100 is being achieved in the fattening complexes of the Kolkhoz imeni Kirov in Zhidachevskiy Rayon, the Kolkhoz imeni XX S"yezda KPSS in Gorodokskiy Rayon, the 40 Let KP Ukrainy Kolkhoz in Zolochevskiy Rayon, the Nove Zhittya Kolkhoz in Sokol'skiy Rayon, and the Zhovten' Kolkhoz and the Kolkhoz imeni Radyanskaya Armiya in Radekhovskiy Rayon in L'vovskaya Oblast. All these farms are provided with full-ration mixed feeds from the rayon interfarm mixed feed plants.

The production of full-value mixed feeds that have a balance of all necessary components depends on the availability of protein raw material, especially of animal origin, trace elements, vitamins and other biologically active substances. Because of the shortage of various kinds of protein raw material, the state mixed feed industry is still far from fully satisfying the needs of interfarm mixed feed plants for full-value protein and vitamin supplements. Therefore, in order to supply the interkolkhoz mixed feed plants with protein raw material more fully, the republic is taking measures to develop its own raw material base.

On the basis of interfarm cooperation, enterprises are created for producing hydrolyzed yeasts, meat and bone meal, amide and mineral pulp, vitamin grass meal, dehydrated skim milk and other highly valuable feed supplements. At the present time there are plants for producing hydrolyzed yeasts in operation in seven oblasts of the republic. During 1978 they produced 12,651 tons of dried nutritive yeasts. There are interfarm enterprises for producing meat and bone meal in operation in six oblasts. Last year they produced 2,659 tons of meal.

Increasing the output of vitamin grass meal and conifer meal at interkolkhoz mixed feed plants is a significant source for augmenting protein kinds of raw material in the republic. During the past 3 years of the five-year plan their production has increased from 113,000 tons to 182,000 tons. A large amount of work for increasing the production of grass has been done at interfarm mixed feed plants of Ternopol'skaya, Vinnitskaya, Odesskaya, Kirovogradskaya and Zhitomirskaya oblasts.

Much initiative is being displayed in utilizing local raw material resources for producing protein supplements in L'vovskaya Oblast. In 1978 600 tons of dried nutritive yeasts were produced here. The specialized shop of the Zolochevskiy interkolkhoz mixed feed plant produced 756 tons of meat and bone meal, and the Zhidachevskiy, Mostiskiy and Peremyshlyanskiy plants produced 219 tons of dry nonfat milk. At all 19 interkolkhoz mixed feed plants of the oblast, 1-1.5 percent carbamide is added to the mixed feeds for cattle. Four plants have organized the production of premixes. All this taken together makes it possible to increase the content of digestible protein in the mixed feeds almost to the norm and to increase their biological value. The increased production and improved quality of feeds in the oblast, along with other measures, has made it possible significantly to improve the state of affairs in animal husbandry.

Analysis shows that in a number of oblasts the utilization of various feed supplements produced directly at mixed feed enterprises has made it possible to reduce the proportion of grain components in the mixed feeds to 58-63 percent.

The Barskiy interkolkhoz mixed feed plant in Barskiy Rayon in Vinnitskaya Oblast provides an example of a creative approach toward organizing production and utilizing local raw material resources. The plant now produces 80 tons of mixed feeds per shift. It is a large modern enterprise. With

its own funds and credit, this enterprise constructed shops for producing vitamin grass meal and conifer meal, storehouse capacities for 15,000 tons of grain, a grain dryer that can handle 20 tons of grain per hour, a rolling mill for gradual reduction of meal with a productivity of 8 tons per shift, an oil shop for processing sunflower seeds with a productivity of 5 tons per shift, a shop for producing meat and bone meal and blood meal with a capacity of 1,100 tons per year, and a shop for producing carbamide concentrate. Technological lines for introducing molasses and fat into the mixed feeds and a granulation line which provides for the production of 5,000-6,000 tons of full-value granulated mixed feeds for poultry per year have been installed at the plant and are in operation.

In order to provide for the production of more full-value mixed feeds, the plant itself procures and processes local raw materials and wastes from other industries: green mass from the valleys and roadside forests, fruit and vegetable wastes from canning plants, and so forth.

The Gorodishchenskiy interkolkhoz mixed feed plant in Cherkasskaya Oblast has arranged the production of mashed peas and the manufacture of mixed feeds to which up to 20 percent of this highly valuable protein supplements has been added for raising and fattening hogs. The use of mixed feeds on the Possiia Kolkhoz in Gorodishchenskiy Rayon made it possible to achieve an average daily weight gain of hogs on fattening of 537 grams. The production of mashed peas is also being arranged at other interfarm plants in the republic.

It should be noted that, with the organization of interkolkhoz mixed feed plants, the structure of the planted areas on the kolkhozes has begun to change. They are seeking out possibilities of increasing the areas planted in forage grain crops, especially peas, barley and other high-protein crops. In order to give the kolkhozes greater motivation to expand the production of high-quality protein feeds and feed supplements and their sale for processing, various norms have been established for the output of mixed feeds, depending on the kinds and quality of the raw material that is provided. For example, 1 ton of grain of pulse crops or grass meal produces 1.5-2 tons of mixed feed.

Many interkolkhoz mixed feed plants of the republic have assimilated the production of full-ration granulated and briquette mixed feeds that contain up to 50 percent straw meal for fattening cattle. This kind of mixed feed also included: vitamin grass meal in an amount of up to 10 percent; concentrated feeds amounting to 30 to 40 percent; carbamide, and mineral nutrients (phosphates, salt). These mixed feeds are given to cattle during the final growing stages and the final stage of fattening. At the present time there are 67 shops for producing full-ration granules and briquettes with a capacity of 450,000 tons a year in operation at interfarm mixed feed enterprises.

One of the decisive factors that ensure the stable and productive operation of the plants is the availability of storage space and sufficient capacity

of dryers and other equipment necessary for receiving grain and storing it for an extended period of time. Operational experience has shown that each mixed feed plant needs enough storage capacity so that during harvesting they can receive no less than 70-80 percent of the grain allotted by the kolkhozes for forage purposes and the necessary quantity of vitamin and grass meal, protein and vitamin supplements and other supplements. Therefore the construction of capacities for raw material is being developed extensively at the present time. In the future, at each interfarm mixed feed plant it is intended to construct capacities, mainly of the silage type, to handle 11,000-15,000 tons of raw material.

The production of mixed feeds at interkolkhoz mixed feed plants, which, as a rule, serve the farms of one rayon, makes it possible to utilize more efficiently the grain forage allotted for feed purposes, to reduce transportation expenditures for shipping grain raw material and mixed feeds, to reduce the production cost of feeds and to provide for continuously supplying the farms with mixed feeds in the required assortment.

For guidance and assistance with problems of the organization and technology of mixed feed production at interkolkhoz mixed feed plants, divisions for the interkolkhoz mixed feed industry have been created as part of the oblast agricultural administrations. Guidance for the republic's interfarm mixed feed industry is provided by the Main Administration of the Interkolkhoz Mixed Feed Industry of the Ukrainian SSR Ministry of Agriculture.

In order to publicize and extensively study the advanced practice in organizing interkolkhoz mixed feed product to introduce new technical equipment and technology, and to train personnel, in each oblast, an experimental demonstration plant has been earmarked. The Ukrainian SSR Ministry of Agriculture has developed a model charter for an interfarm mixed feed plant, the rules for organizing and carrying out the technological process, bookkeeping instructions and other normative and technical documents. Agricultural agencies are developing programs for the long-range development of the interfarm mixed feed industry, keeping in mind more efficient utilization of forage grain and other local raw material resources.

On the other hand, there are still unsolved problems in the operation of interfarm mixed feed enterprises in the republic: inadequate supply of the interfarm mixed feed plants with protein and vitamin supplements in the necessary assortment and their poor quality; according to the requirements of All-Union Standard 8-17-77, protein and vitamin supplements must contain no less than 30 percent crude protein; actually the plants of the Ukrainian SSR Ministry of Procurements deliver supplements containing 18-20 percent crude protein. There must be significant improvement in the material and technical support for mixed feed plants. There arises a need to seek out new forms of technical service for mixed feed enterprises, to provide them with specialized transportation for delivering mixed feeds to the farms, and so forth. It is necessary to improve the system of payment for the labor of workers and specialists employed in interfarm mixed feed production.

There are difficulties in staffing them with specialists of high and middle levels who know a lot about mixed feed production.

The July (1978) Plenum of the CPSU Central Committee set the task of making sure that all grain that goes to animal husbandry for feed is utilized only in the form of mixed feeds or feed additives that are balanced in the necessary nutritive components. Agricultural workers of mixed feed industry must exert maximum efforts to fulfill this task. It will result in achieving a significant increase in the production of animal husbandry products and the economic effectiveness of the utilization of the most valuable part of the country's forage supplies will increase.

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HERBICIDE-RESISTANT WEEDS ON THE INCREASE

Minsk SEL'SKAYA GAZETA in Russian 18 Sep 79 p 3

[Article by A. Skur'yat, deputy director of the Belorussian Scientific Research Institute for Plant Protection, and K. Padenov, head of an institute department: "Herbicides: Application During the Fall." For an additional article on weeds see JPRS Report 73902, dated 28 Jun 79 No 1193 of this series]

[Text] An increase in the number of weeds resistant to 2,4-D and 2M-4Kh type herbicides has been observed in recent years on fields where these herbicides are being used systematically. This is evident from the example of many farms where the crops are heavily infested with weeds like scentless mayweed, couch, loose silky bent, and others. According to the data of our institute, simazin, which is produced in the form of a wetting powder with a 50 and 70 percent content of active substance is the most effective herbicide in the campaign against scentless mayweed on winter wheat fields. The best time to apply it is in the fall immediately after sowing, but before the shoots emerge in an application of 0.25 kilograms of active substance per hectare. We used simazin on winter wheat fields in an application of 0.3 kilograms per hectare, and we did not observe any inhibition of crop plants, but the degree of weediness was reduced 65 percent, including 79 to 85 percent in the case of scentless mayweed. The total weight of weeds was reduced 70 percent; the grain yield increased 2.2 quintals per hectare. Simazin in a 0.25 kilogram application per hectare did not have an inhibiting effect on the crop even when it was used after the emergence of wheat shoots (at the phase of three true leaves).

This high effectiveness is achieved only with treatment by a boom apparatus. The amount of water used is not very significant. The main thing is to distribute the prescribed amount of the chemical evenly on the soil surface.

It should be noted that with the fall application of simazin we also are observing up to a 30 percent reduction in the number of loose silky bent shoots.

Agrotechnical measures destroy couch which infests some sectors, but this method is sufficiently effective only during a dry fall: in wet years the destruction of couch is insignificant. In this case agrotechnical measures must be combined with chemical measures, with the application of herbicides. The herbicides sodium trichloroacetate (TKhAN) and dalapon are recommended in the campaign against couch and other herbaceous weeds. They must be used wisely and only on highly infested areas. The chemicals are applied only in the fall at the time of the autumn plowing with a subsequent application with the harrowing or cultivation.

In preparation of the soil in the fall for the next year's flax sowing TKhAN is applied at the rate of 25 to 30 kilograms per hectare to heavy soils and not more than 20 kilograms to light soils; dalapon [sic] is applied at the rate of 15 to 10 kilograms, respectively. The applications for beets and potatoes are as follows: 30 to 40 kilograms of TKhAN and 15 to 20 kilograms of dalapon per hectare. Only TKhAN, at a rate of 30 to 40 kilograms per hectare, is used on carrots and cucumbers.

We must keep in mind that the second half of August and first half of September is the optimum period for applying the chemicals. However, it is possible to apply herbicides even now, although they are not successfully dissolved to a sufficient degree then; they remain in the soil and in the spring they may have an inhibiting effect on the cultivated crop, especially flax. In applications during a dry fall the chemicals may also remain in the soil in amounts above an acceptable level. On such areas it is necessary to sow only beets or potatoes and to select other areas for flax.

The chemicals TKhAN and dalapon must be applied only by a boom apparatus so as to achieve an even distribution of the herbicides on the soil surface.

7990

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BROADER UTILIZATION OF GREEN MANURE CROPS URGED

Minsk SEL'SKAYA GAZETA in Russian 17 Jul 79 p 2

[Article by A. Golushko, director of the Main Administration of Agriculture of the BSSR MSKh [Ministry of Agriculture], candidate of agricultural sciences; Ye. Basalyga, director of the Main Administration of Chemization of the BSSR MSKh; K. Dovban, director of the Sector on Farming and Chemization of the Belorussian Scientific-Research Institute of Scientific-Technical Information of BSSR Gosplan, candidate of agricultural sciences: "A broad Road to the Fields for Green Manure Crops"]

[Text] The basic condition for the continued growth in the harvests of all agricultural crops is the improvement of the productivity of sod-podzolic soils. This can be achieved by the systematic introduction of organic fertilizers in addition to high quality cultivation, reclamation and chemization. Thus, this year 13 tons of organic fertilizers will be introduced per hectare of plowland on the average in the republic. By 1980 the enterprises of the republic must increase the production and introduction of organic fertilizers to almost 15 tons.

A normal question arises: Will enterprises be practically able to procure so much organic fertilizer? We know that at the present time about 40 million tons of peat ~~just~~ are included in the total balance of organic fertilizers. Its intensive use in recent years has resulted in the fact that in many enterprises and even in entire rayons peat reserves have been exhausted or exist in extremely limited supplies. Thus the necessity arises of looking for a possible replacement for peat.

Science and practical experience attest to the great reserves of organic fertilizers found in green manure crops. The value of this reserve is growing, especially since in the republic a technology has been developed for utilizing green fertilizers as intermediate crops (undersowing crop--perennial lupine and afterharvest crops--narrow-leaved lupine, maple pea, vetch, winter rape, mustard, phacelia and oil-bearing radish) which do not occupy their own fields.

Of the large number of green manure crops the best was perennial lupine. It is sown under winter rye using a disc sower during late fall (end of November)

or early spring (at the first opportunity to move into the fields, in April to early May). After harvesting winter crops for grain purposes lupine grows until late fall. During the winter the vegetative mass retains more snow, and during the spring it averts water erosion. The water from the melting snow is completely absorbed by the ground, which provides a good moisture-retention regimen.

Calculations show that the plowing up of 300,000 hectares of intermediate perennial lupine, as called for by the basic measures of the BSSR Ministry of Agriculture, would enable us to produce about 15 million tons (19 percent of the total amount) of additional organic fertilizer and about 210,000 tons of additional biological nitrogen in standard mineral fertilizers (about 10 percent of the total nitrogen supplied by industry). In order to evaluate this reserve it can be said that if we introduce this quantity of nitrogen into natural meadows and pastures, the republic would produce approximately 1 million tons of additional hay, or it would increase production by 1.5 times. The mineral fertilizers that are saved can be used to expand intermediate afterharvest crops for feed purposes. This expansion is now being hindered exclusively by the shortage of nitrogen fertilizers. Research and production tests have shown that it is possible to produce 180-200 and more quintals of potato tubers by plowing under perennial lupine and by introducing the corresponding dose of mineral fertilizers, especially phosphorus and potassium. In the Bobr Sovkhoz of Krupskiy Rayon under production conditions the potato harvest reached 304 quintals per hectare in 1976, with a cost per hectare of 3.36 rubles and labor expenditures of 0.86 man-hours. The crop was planted in low-grade soil following the plowing under of seedlings from perennial lupine. The average yield with peat-manure compost was 191 quintals per hectare in the sovkhoz and the cost of a quintal was 6.2 rubles, with labor expenditures at 1.57 man-hours.

It is essential to remember that after plowed-under perennial lupine only the average-maturation Ogonek variety should be planted since its vegetative period is 10-15 days shorter than that of late-maturing varieties. As for the green manure crops of catch crops, when their vegetative mass is plowed under during late fall or in the spring, potatoes should be planted early.

Calculations show that the distribution of the Ogonek variety on perennial lupine even on an area of 40,000-45,000 hectares, which is only one tenth of the planting plan, would free about 2.0-2.8 million tons of peat-manure compost that could then be utilized directly for grain crops, thereby increasing their yield and gross production.

Biological nitrogen of green manure has a positive effect on the quality of production. The seeds of winter rye, barley, buckwheat and oats grown in soils that were fertilized by lupine contained more protein and irreplaceable amino acids, including lysine, than those grown on fields that were fertilized only with mineral fertilizers.

The question arises: Why hasn't the use of perennial lupine become more widespread? There are many reasons for this. First of all, the utilization

of green manure crops is outside the scope of planning organs and it has fallen to the lot of devotees. Secondly, specialists are not very familiar with the biological characteristics of perennial lupine and the agrotechnology for its cultivation. As a result the technology for cultivating this green manure crop was violated. This was especially true for adhering to the schedule and techniques of plowing under, which resulted in the weed infestation of a number of fields. This occurred in Tolochinskiy, Dobrushskiy and other rayons. But the main reason is the planting schedule for potatoes, which the specialists and directors of enterprises point to as a rule. We know that late planting in fields that have been fertilized with peat-manure compost decreases the yield of tubers. But we cannot generalize that this will be the case on fields where lupine is used. An analysis shows that with the existing technical supplies in kolkhozes and sovkhozes lupine can be plowed under and potatoes can be planted on 100,000 hectares within 2-3 days. For this reason potatoes should be planted first on peat-manure compost lands and then on lands fertilized with lupine.

We should also note the high effectiveness of other crops with a short vegetative period that are used during the afterharvest period as green manure. On the Dovsk Experimental Base (Gomel'skaya Oblast Agricultural Experimental Station) the plowed under afterharvest green manure crops--annual narrow-leaved lupine, maple pea, spring and winter vetch, winter rape, mustard, phacelia and oil-bearing radish--increased the potato harvest by 25-30 quintals per hectare, the green mass of corn--by 45-50 quintals per hectare and as a result a second crop of barley and a third of oats--by 5-7 quintals per hectare.

The use of green manure crops as intermediates plays an important soil-protective role. Under the conditions existing in our republic 38 percent of the total good temperatures and 40 percent of the total precipitation occur in the period August-October. Taking into account the spring vegetation of perennial lupine (until mid-May) and also the fact that it utilizes the warmth and precipitation of the last 10 days of July, when the cover rye is reaching maturity and no longer needs them, the total use of good temperatures and precipitation increase to 59 and 64 percent respectively of the total during the vegetative period. Large amounts of precipitation without a crop cover on the ground results in increased water and wind erosion, and on light soils--in the washing out of active nutritional elements in the deep layers of soil and in environmental pollution.

Basically, losses due to erosion and the washing out of nitrogen, potassium calcium and manganese occur during the fall-winter and early spring periods when the soil is bare. In the republic after early grain crops (barley, winter rye, wheat) are harvested there remain 60-80 days that are favorable for vegetation, or over 80 days if two-stage harvesting is utilized. However, these conditions are utilized extremely insufficiently. According to the data of the TsSU [Central Statistical Administration] of the BSSR, during the afterharvest period about 1 million hectares of land remain empty annually in kolkhozes and sovkhozes. According to preliminary data, about 70,000 tons of nitrogen, 96,000 tons of potassium and 130,000 tons of potassium and magnesium oxides are lost.

Meadows in waterless valleys, of which there are over 2 million hectares in the republic, can become a large reserve for green manure. At the present time almost no organic fertilizers are introduced on these lands. At the same time with the use of green manure it is possible to introduce about 40-50 tons of vegetative mass from green manure crops per hectare once in every 4-5 years. The same can be said for the recultivation of lands which can be successfully introduced into agricultural rotation with the aid of green manure crops. There are also many promising possibilities for the use of green manure in horticulture and vegetable farming as well.

There is a detailed discussion on the use of intermediate crops as green manure in intensive farming in the recommendations confirmed by the scientific and technical council of the BSSR MSKh and dated 14 March 1979. These recommendations will be mass published and sent to all kolkhozes and sovkhoses in the republic. Right now the most important thing is to adhere to the schedule for harvesting the seedlings of perennial lupine. Because of the existing weather conditions perennial lupine will mature during the second half of July. For this reason it is essential to take all measures for the scheduled harvesting of seeds. In view of the fact that many enterprises do not have perennial lupine seed crops, it would be expedient to organize their harvesting in forests, roadside strips of land and other places where lupine grows in order to start the necessary number of seedlings during the late fall of the current year.

The extensive introduction of intermediate crops for green manure will encourage increased fertility and the more intensive utilization of lands. There will be more agricultural production per unit of area, with significant decreases in costs.

0228

CSO: 1824

PRESLAUGHTER LIVESTOCK MAINTENANCE AT KAMENSK-SHAKHTINSKIY PACKING PLANT

Moscow MYASNAYA INDUSTRIYA in Russian No 8, Aug 79 pp 36-37

[Article by V. G. Nikolayenko, receiving center foreman at the Kamensk-Shakhtinskiy Packing Plant]

[Text] The Kamensk-Shakhtinskiy Packing Plant in northern Rostovskaya Oblast serves seven rayons, and up to 11 in its busiest season, encompassing 120-140 farms. The most distant farms, in Verkhnedonskiy and Veshenskiy rayons, are 260-350 km away.

The roads linking the packing plant and the farms are basically dirt roads.

The combine began accepting and processing livestock on the basis of meat bulk and quality in 1970.

A hog-fattening complex (Kamenskiy Rayon) and feed lot for young cattle (Veshenskiy Rayon) have been built and operate in the packing plant service zone. Packing plant representatives are regular visitors to sovkhoz and other feed lots.

Work experience confirms the economic effectiveness of creating interkolkhoz feed lots -- liveweights increase appreciably.

Thus, whereas in 1975-1976 farms of our zone marketed hogs at an average live weight of 100-110 kg and cattle (gelding calves for fattening) at 340-350 kg, in recent years the qualitative composition of the livestock has improved appreciably. At present, the leading farms are marketing gelding calves at an average live weight of 380-400 kg. We are also gratified by the fact that the quality of the hides from these farms is considerably higher than for livestock being marketed by other sovkhozes.

It should be noted that, jointly with the rayon state procurement inspectorates, the packing plant is doing a great deal of work to prevent damage to animal skins during fattening and transport to the enterprise. This has had a positive effect on the quality of the leather raw material.

For the purpose of closer contact between and greater supervision of the quality and condition of the leather raw material, the packing plant has for the past four years concluded cooperative agreements with several livestock supplier farms. This has placed great responsibility on both the person transferring the livestock and the one accepting it. The collectives mutually strive to meet all points of the agreement and take first place.

In 1979, we have concluded subcontractor agreements with three farms. Many livestock suppliers try to conclude such agreements with us. However, the very pronounced seasonal condition of the roads and the lack of paved roads hinder the expansion of interrelationships on contractual principles between the packing plant and livestock suppliers. These factors make it hard to continue developing and improving a useful beginning.

Transporting livestock is a challenging problem. A majority of the farms usually deliver livestock in vehicles not suitable for hauling livestock: dump trucks, heavy-freight vehicles like the KamAZ's, Kolkhids and others. In the heaviest marketing period, any transport is used, up to and including tractors with attachments. Of course, it is hard to ensure high quality of hides given such transport conditions, since the animals receive considerable damage to their skins.

The packing plant is taking every step necessary to provide good preslaughter livestock maintenance conditions.

Incoming cattle are sorted by age and sex and put into separate pens. Hogs are grouped and penned depending on type of processing.

After preliminary hunger seasoning with abundant water, the animals are sent to the stunning conveyor. Hogs are first washed in a cold shower.

The delivery schedules are drawn up by the packing plant receiving center foreman at the end of each month. In order to coordinate and adopt the schedule, representatives of the fattening sovkhoses are invited to the packing plant; once they approve it, the schedule becomes legally binding.

Strict observance of the schedules for delivering livestock to the packing plant throughout the year eliminates any misunderstanding about the acceptance and processing of the livestock and any dissatisfaction on the part of the farms. Moreover, this eliminates large backlogs of livestock at the receiving center and, consequently, losses of live weight. Receiving center workers keep the center in good sanitary condition.

If the farms fail to meet livestock delivery schedules, the packing plant informs the rayon state procurement inspectorate and the animals are put into pens and provided with water. Other expenses on keeping the livestock are assumed by the farm. Animals are sent for processing at the agreed-upon times whenever possible. In no case is livestock made available to bearers unspecified.

Every condition necessary has been created for livestock suppliers. The packing plant has a dormitory with bright, comfortable recreation rooms. There is a television set, radios, current newspapers and magazines, chess and checkers. In the plant dining hall, suppliers can always get tasty, inexpensive dinners. The administration, party bureau and plant committee have taken every step necessary to create an atmosphere of mutual understanding and mutual assistance between supplier representatives and livestock receiving center workers.

The collective of the Kamensk-Shakhtinskiy Packing Plant, in response to the decree of the July (1978) CPSU Central Committee Plenum and in carrying out the resolutions of the Rostovskaya Oblast committee, the oblispolkom and the Kamensk gorkom, has set itself obligations to fatten 200-250 hogs a year and to obtain 20-25 tons of pork in addition to the resources for the city's population and to improve public catering for packing plant laborers.

Packing plant dining hall food scraps, mixed feed and cracklings are used to fatten the hogs. The mixed feed is brought in from the farms under an agreement on the strength of contra accounts.

As a result of the intensive fattening, the animals provide 350-400 up to 650-700 grams of weight gain per day on average, which is economically profitable for the enterprise. Thus, the net profit to the enterprise from fattening 50 hogs is 500-600 rubles.

The initiative by the packing plant's collective has been approved by the USSR Ministry of Meat and Dairy Industry. A group of packing plant workers headed by the director was given a bonus for participating actively in organizing hog fattening.

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11052

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BRIEFS

GRAIN HARVEST -- Kustanay. Despite the prolonged bad weather this fall, oblast grain growers are stepping up the rate of hauling grain from the threshing floors to the elevators. In recent days they have poured a record amount of wheat into the state's silos -- 100,000 tons. After drying it the grain procurers sent it for storage yesterday. An increase in the capacity of the drying farm and its conversion to a continuous work schedule have made it possible to accept all the grain regardless of moisture content without delay. [Text] [Moscow TRUD in Russian 4 Oct 79 p 1] 7990

WINTER WEATHER -- Murmansk. Winter arrived on the Kol'skiy Peninsula with hurricane-force winds and a rare heavy snowfall. A blanket of snow almost a half-meter deep fell in one night on the Lovozerskaya tundra and many other places in Murmanskaya Oblast. The elements raged with special force in Khibiny where wind velocity at times exceeded 40 meters a second. Work had to stop in the open-pit mines of the Apatit Association because of the bad weather. Special brigades and equipment were thrown into clearing the roads to them and rescuing the people who were held captive by the elements. Forecasters warned the Northerners only the day before about the approach of a strong cyclone from the direction of the Shpitsbergen Arctic Archipelago. Therefore, necessary safety measures were successfully taken at enterprises and construction projects, as well as in coastal areas where the fishing industry is carried on. There were no casualties or destruction. All enterprises and transport arteries in the oblast are again operating normally. [Text] [Moscow TRUD in Russian 6 Oct 79 p 4] 7990

GRAIN HARVESTING -- Petropavlovsk. The grain crop has been harvested on one million hectares in Severo-Kazakhstanskaya Oblast. A total of 360,000 tons of grain more was threshed this year than from the same area last year. The present harvest season has been the most difficult one for rural workers in the entire history of virgin land development. It is a rare day when it doesn't rain, but stamina and equipment maneuvering have been set against the bad weather. Even the hay-mowing rakes and other agricultural machines have been sent to the wheat fields. Units equipped with special attachments are shaking moisture from the windrows, turning them over and setting them neatly on the untrampled stubble field. The combines are carrying out the

threshing, using every minute of good weather. They are in the plowed strips around the clock. Emissaries from oblast industrial enterprises and fraternal republics have come to our aid. [Text] [Moscow SEL'SKAYA ZHIZN' in Russian 4 Oct 79 p 1] 7990

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